

CLAIMS

1. A method of making a silicone oil-in-water emulsion comprising the steps of:
 - (i) forming a homogeneous oil phase containing a silicone gum, a silicone rubber, a silicone elastomer, a silicone resin, or a mixture thereof; the silicone in the homogenous oil phase having a viscosity of at least 100,000,000 (100 million) centistoke (mm^2/s) to 5,000,000,000 (5 billion) centistoke (mm^2/s);
 - (ii) mixing one or more surfactants with the homogenous oil phase;
 - (iii) adding water to the homogenous oil phase to form a water-in-oil emulsion containing a continuous phase and a dispersed phase, the water being added in an amount of about 0.5-10 percent by weight based on the weight of the silicone in the homogenous oil phase;
 - (iv) applying high shear to the water-in-oil emulsion in a twin-screw extruder having a length to diameter L/D ratio of at least 15, to cause inversion of the water-in-oil emulsion to an oil-in-water emulsion; and
 - (v) diluting the oil-in-water emulsion by the addition of water; the method being carried out in the absence of a solvent other than solvents present in the silicone gum, silicone rubber, silicone elastomer, or silicone resin in (i).
2. A method according to Claim 1 wherein the silicone in the homogenous oil phase has a viscosity of at least 200,000,000 (200 million) centistoke (mm^2/s) to 2,000,000,000 (2 billion) centistoke (mm^2/s).
3. A method according to Claim 1 wherein the silicone in the homogenous oil phase has a viscosity of at least 1,000,000,000 (1 billion) centistoke (mm^2/s).
4. A method according to Claim 1 wherein the silicone in the homogenous oil phase is a silicone resin.
5. A method according to Claim 1 wherein the amount of water added in (iii) is about 1-5 percent by weight based on the weight of the silicone in the homogenous oil phase.
6. A method according to Claim 1 wherein the L/D ratio of the twin-screw extruder is 15-60.
7. A silicone oil-in-water emulsion prepared according to the method defined in Claim 1.

8. A personal care product, medical product, coating product, household care product, or product for application to paper, containing the silicone oil-in-water emulsion prepared